

§ 178.710

sharp protrusions that might damage the IBC.

(iii) Strengthening devices, such as timber supports to increase stacking performance, may be used but must be external to the inner liner.

(iv) The load-bearing surfaces of IBCs intended for stacking must be designed to distribute loads in a stable manner.

[Amdt. 178-103, 59 FR 38068, July 26, 1994, as amended at 66 FR 45386, Aug. 28, 2001]

§ 178.710 Standards for flexible IBCs.

(a) The provisions of this section apply to flexible IBCs intended to contain solid hazardous materials. Flexible IBC types are designated:

(1) 13H1 woven plastic without coating or liner.

(2) 13H2 woven plastic, coated.

(3) 13H3 woven plastic with liner.

(4) 13H4 woven plastic, coated and with liner.

(5) 13H5 plastic film.

(6) 13L1 textile without coating or liner.

(7) 13L2 textile, coated.

(8) 13L3 textile with liner.

(9) 13L4 textile, coated and with liner.

(10) 13M1 paper, multiwall.

(11) 13M2 paper, multiwall, water resistant.

(b) Definitions for flexible IBCs:

(1) *Flexible IBCs* consist of a body constructed of film, woven plastic, woven fabric, paper, or combination thereof, together with any appropriate service equipment and handling devices, and if necessary, an inner coating or liner.

(2) *Woven plastic* means a material made from stretched tapes or monofilaments.

(3) *Handling device* means any sling, loop, eye, or frame attached to the body of the IBC or formed from a continuation of the IBC body material.

(c) Construction requirements for flexible IBCs are as follows:

(1) The strength of the material and the construction of the flexible IBC must be appropriate to its capacity and its intended use.

(2) All materials used in the construction of flexible IBCs of types 13M1 and 13M2 must, after complete immersion in water for not less than 24 hours,

49 CFR Ch. I (10-1-01 Edition)

retain at least 85 percent of the tensile strength as measured originally on the material conditioned to equilibrium at 67 percent relative humidity or less.

(3) Seams must be stitched or formed by heat sealing, gluing or any equivalent method. All stitched seam-ends must be secured.

(4) In addition to conformance with the requirements of § 173.24 of this subchapter, flexible IBCs must be resistant to aging and degradation caused by ultraviolet radiation.

(5) For plastic flexible IBCs, if necessary, protection against ultraviolet radiation must be provided by the addition of pigments or inhibitors such as carbon black. These additives must be compatible with the contents and remain effective throughout the life of the container. Where use is made of carbon black, pigments, or inhibitors, other than those used in the manufacture of the tested design type, retesting may be omitted if the carbon black content, the pigment content or the inhibitor content does not adversely affect the physical properties of the material of construction. Additives may be included in the composition of the plastic material to improve resistance to aging, provided they do not adversely affect the physical or chemical properties of the material.

(6) No used material other than production residues or regrind from the same manufacturing process may be used in the manufacture of plastic flexible IBCs. This does not preclude the re-use of component parts such as fittings and pallet bases, provided such components have not in any way been damaged in previous use.

(7) When flexible IBCs are filled, the ratio of height to width may not be more than 2:1.

[Amdt. 178-103, 59 FR 38068, July 26, 1994, as amended by Amdt. 178-108, 60 FR 40038, Aug. 4, 1995; 66 FR 45386, Aug. 28, 2001]

Subpart O—Testing of IBCs

SOURCE: Amdt. 178-103, 59 FR 38074, July 26, 1994, unless otherwise noted.